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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/707,936 | 01/26/2004 | Sheng-Lung Tsai | ACMP0174USA | 1935 |
| 27765 | 7590 | 11/02/2005 | EXAMINER | |
| NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116 | | | GARCIA JR, RENE | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2853 | |

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|-----------------------------|--|
| Office Action Summary | Application No. 10/707,936 | Applicant(s) TSAI ET AL. | |
| | Examiner Rene Garcia, Jr. | Art Unit 2853 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 10 is/are rejected.
- 7) ☒ Claim(s) 1-9 and 11-14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>26 January 2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US 4,544,931) in view of Heim (US 6,452,618).

Watanabe et al. disclose the following claimed limitations:

*regarding claim 10, method of controlling a moving velocity of a printhead/101/ (ABS.), the printhead/101/ mounted in a carriage/110/ and the carriage/110/ capable of moving the printhead/101/ back and forth (col. 4, lines 15-17) the method comprising steps of: (fig. 1)

*measuring the temperature of the printhead/101/ prior to an upcoming swath (col. 7, lines 55-59: disposed by print head; col. 9, lines 52-57 & col. 10, lines 8-15 & col. 8, lines 48-50: thermal sensor continuously checked therefore prior to swath)

*comparing the temperature of the printhead/101/ to at least one reference temperature (col. 7, line 24-31)

*when the temperature of the printhead/101/ is greater than the reference temperature, moving the carriage/110/ at a first velocity/ v_1 / during the upcoming swath (col. 7, lines 24-31 & col. 8, lines 15-20: v represents a voltage that represents a speed [velocity])

*when the temperature of the printhead/101/ is lower than the reference temperature, moving the carriage/110/ at a second velocity/ v_2 / during the upcoming swath, the first velocity being higher than the second velocity (col. 7, lines 24-31 & col. 8, lines 15-20)

Watanabe et al. does not disclose the following claimed limitations:

*regarding claim 10, printhead having a plurality of nozzles and the printhead capable of firing individual nozzles during each swath to apply an ink onto a print medium

Heim disclose the following:

*regarding claim 10, printhead/12/ having a plurality of nozzles/21/ and the printhead/12/ capable of firing individual nozzles/21/ during each swath to apply an ink onto a print medium (col. 4, lines 1-3)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize a printhead having a plurality of nozzles and the printhead capable of firing individual nozzles during each swath to apply an ink onto a print medium as taught by Heim into Watanabe et al. for the purpose of applying an ink pattern to the print medium.

Allowable Subject Matter

3. Claims 1-9 are allowed.
4. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 1-5 is the inclusion of the method step being if the temperature of the printhead is greater than the reference temperature, raising the velocity of the carriage during the upcoming swath for ensuring that a distance ink is ejected

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from the printhead to the print medium is kept substantially constant during each swath. It is this step found in the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 6-9 is the inclusion of the limitation of a control circuit for comparing the temperature of the printhead to at least one reference temperature and for raising the velocity of the carriage during the upcoming swath if the temperature of the printhead is greater than the reference temperature for ensuring that a distance ink is ejected from the printhead to the print medium is kept substantially constant during each swath. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable of the prior art.

5. Claims 11-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

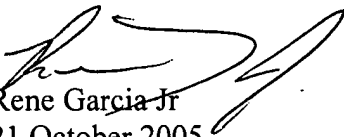
The primary reason for the allowance of claims 11-14 is the inclusion of the method step being consulting a lookup table containing a plurality of temperature ranges and corresponding carriage velocities, determining a current temperature range based on the measured temperature of the printhead, and adjusting the velocity of the carriage to be the carriage velocity corresponding to the current temperature range. It is this step found in the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rene Garcia, Jr. whose telephone number is (571) 272-5980. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rene Garcia Jr
21 October 2005

 10/05
K. FEGGINS
PRIMARY EXAMINER